

# MISSOURI CONSERVATIONIST

VOLUME 85, ISSUE 9, SEPTEMBER 2024  
SERVING NATURE & YOU





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Showy  
goldenrod

## MISSOURI CONSERVATIONIST



### ON THE COVER

Persimmon fruit ripens in September

by CLIFF WHITE

24-70mm lens, f/16  
1/250 sec, ISO 100

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# Inbox



## Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email [Magazine@mdc.mo.gov](mailto:Magazine@mdc.mo.gov) or write to us:

MISSOURI  
CONSERVATIONIST  
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## OVENBIRD NEST

In your *Wild Guide* [July, Page 32] article on the ovenbird, it would have been nice to include a picture of their nests. They do have an unusual nest that looks like an outdoor oven, thus the reason for their name.

Larry Brunner  
St. Charles

## PATH LESS PADDLED

Thank you for the article *The Path Less Paddled* [July, Page 10] and the beautiful photographs of just a few of the wonderful streams we have in Missouri.

Sadly, the water quality in many of our streams and the habitat for the aquatic life in them are threatened by trash, pesticides, chemical runoffs, and a number of other senseless abuses. As so eloquently stated by the late Missouri conservationist Leonard Hall in his 1958 book *Stars Upstream*, "wilderness is a resource which can shrink but never grow. The pressure increases daily on these resources." Hall firmly believed that we are stewards of the land with the responsibility to preserve it from that juggernaut called progress, "which takes no account of natural values."

Dudley McCarter Creve Coeur



Ovenbird nest

## VULTURES

Like the author, I have always had a special admiration for turkey vultures [*Beyond the 'Ugly,'* August, Page 16]. Way back in the spring of 1954 when I was 12, I found three eggs under an overhanging ledge deep in the woods. When I went back days later, a turkey vulture flew from there and I found three snow white turkey vultures, cute as could be.

I went back every chance I got and as they were getting their feathers, the "cute" was wearing off. The last time I went there, they vomited everything up, which I believe was their way of making sure I didn't get too close as it smelled terrible.

However, looking back, I still have many fond memories of those little white turkey vultures and the year I watched them.

Thomas Thurman via email

What a great article in the August edition of the *Missouri Conservationist*. Vultures are a great species of the raptor family. Last year we saw a group of five flying over the house. What an experience. One year we saw two fighting over a piece of prey right across the street. Amazing and beautiful creatures!

Larry and Barbara Biondo via email

## CLARIFICATION

In July's *Nature Lab* [Page 4] on karst fen surveys, the statement was made that the "karst fen soils will become the first organic soils to be formally described in Missouri." Since then, we've learned that in the early 1980s another organic soil type was described for a small area in Stoddard County. Karst fen soils, however, are the first organic soils to be formally described for the Ozark ecoregion of Missouri.

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Share your photos on Flickr at  
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or email [Readerphoto@mdc.mo.gov](mailto:Readerphoto@mdc.mo.gov).



1 | Belted kingfisher by **Jack Backs**, via Flickr

2 | Allred Lake Natural Area by **Peter Catalano**, via Flickr

3 | Wrinkled peach mushroom by **Bill Allen**, via Flickr



### Want another chance to see your photos in the magazine?

➔ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



# Up Front

✖ It's hard not to notice that days are growing shorter and morning sunrises are accompanied by fog formed on the lakes and rivers as my favorite season slowly approaches. The opening of dove season on September 1 signals the unofficial start to fall and the many hunting opportunities that Missouri offers. For me, September includes the final preparations for a long hunting season, a time of optimism, daydreaming, and quiet time in the outdoors, soaking in all the benefits that nature provides. It's also a time to reconnect with old friends and establish relationships with new ones by sharing time at deer camp, a cool foggy morning in the duck marsh, or an evening around a campfire.

Fall also represents a time of significant changes in nature — the final sightings of ruby-throated hummingbirds at the feeder or final migration of monarch butterflies. Fall highlights the amazing feats of wildlife that make Missouri home for at least some portion of the year (see Page 22 for one such example). Or the appearance of the lesser yellowlegs on their migration from the arctic to Argentina.

It's also a time we benefit from nature in so many ways, whether it's enjoying its beauty (see Page 10), consuming the wild harvest of nuts and fruits (see Pages 17 and 29), or obtaining high-quality protein from harvested fish and wildlife. We face many conservation challenges, but fall is a time to appreciate how much we benefit from healthy habitats and populations of fish and wildlife.

*Jason Sumners*

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**POSTMASTER:** Send correspondence to Circulation, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-522-4115, ext. 3856. Copyright © 2024 by the Conservation Commission of the State of Missouri.

Printed with soy ink



## WILDLIFE MANAGEMENT

# Assessing Spider Diversity

Biologists surveyed spiders in Spring Creek Watershed priority geography

by Dianne Van Dien

✳ Not many people go outside hoping to see spiders, but Reese Worthington has been trying to find as many spiders as he can. Worthington, a natural history biologist for MDC, has been inventorying spiders as part of MDC's landscape assessment and monitoring initiative.

Spiders may not be the first thing you think of when it comes to conservation, but they are vital to our ecosystems and part of a thriving landscape. Spiders at large, however, are not well studied, and global research indicates that spider numbers are declining.

"We need to know what we have before we start to lose potentially even more species," Worthington explains.

During 2022, Worthington and an assistant surveyed spiders on the Spring Creek Watershed priority geography in northeast Missouri. Using four collection methods, they sampled spiders from a variety of habitats within the 46,795-acre area.

Spiders are difficult to identify to the species level and often microscopic examination is necessary. So,



The structure of spider webs can vary greatly among species. The web of this black-and-yellow garden spider (*Argiope aurantia*) may be the shape we are most familiar with. While all spiders produce silk, not all species make webs for catching prey.

specimens were preserved and brought to spider expert Hank Guarisco in eastern Kansas for identification. About 6,900 specimens were collected. Identifying all of them will take time. So far, 166 species have been identified. These include 16 species never before recorded in Missouri, representing 13 different families of spiders.

"The coolest thing," Worthington says, "is that we have found two new species undescribed by science. Hank will be writing those up as scientific publications."

Knowing which species are present can inform land managers if they should alter any practices to accommodate the life history of rare or less common species. For instance, they can wait to do a controlled burn until after spider eggs have hatched and the spiderlings have made their way into the world.

Although collecting at Spring Creek Watershed is done, Worthington will continue to explore spider diversity in the state. Collecting spiders in the Ozarks is one of his upcoming projects.

## At a Glance

→ More than **45,000** spider species worldwide

→ More than **3,500** species in North America

→ About **450** known in Missouri so far

Spiders are one of the most abundant and diverse predator groups on the planet, living in many habitats and employing a variety of hunting strategies.

### CATCH PREY IN WEB



Funnel web spider

### WANDER AND HUNT



Jumping spider

### WAIT AND AMBUSH



Crab spider

### HUNT ON WATER



Fishing spider



# In Brief

News and updates from MDC



## ZEBRA MUSSELS FOUND IN 10TH MISSOURI LAKE

MDC CONFIRMS INVASIVE SPECIES IN JACKSON COUNTY'S LONGVIEW LAKE

➔ MDC fisheries staff in the Kansas City area recently found invasive zebra mussels for the first time in Longview Lake in Jackson County — the most recent discovery of the invasive species in the state.

Zebra mussels are an invasive species that came to North America in international shipping ballast water and were first discovered in Lake St. Clair near Detroit in 1988. Zebra mussels were first reported in Missouri in 1991 in the Mississippi River near St. Louis. They have spread to the Missouri, Osage, and Meramec rivers and streams downstream of infested lakes. In addition to Longview Lake, they have also been found in nine other Missouri lakes, including Blue Springs Lake, Bull Shoals Lake, Carrollton Recreation Lake, Lake Jacomo, Lake

**Zebra mussels only grow to ¼–1 inch. For such a small size, this invasive species has a tremendous negative impact on aquatic ecosystems.**

Lotawana, Lake Taneycomo, Lake of the Ozarks, Prairie Lee Lake, and Smithville Lake.

Invasive zebra mussels hurt native fish numbers and disrupt aquatic ecosystems. They decimate populations of native freshwater mussels and other aquatic animals.

One of the greatest risks for spreading the invasive mussels to other lakes and rivers is overland transport on boats, motors, trailers, docks, aquatic plants, pumps, and other equipment. MDC urges boaters to keep their crafts and equipment free from hitchhiking zebra mussels — especially when moving between waterbodies — by completing the following steps:

- **CLEAN** — Remove all plants, animals, and mud and thoroughly wash all equipment, especially in crevices and other hidden areas. If the boat or equipment was used in infested waters or if it has attached adult mussels, use a hot water spray of at least 104 degrees.
- **DRAIN** — Eliminate all water before leaving the area, including livewells and transom wells.
- **DRY** — Allow enough time for the boat to completely dry before launching in other waters.
- **DISPOSE** — Do not dump unused bait into lakes, ponds, rivers, or streams. Put unused bait in a trash can.

Learn more about zebra mussels at [short.mdc.mo.gov/4o8](http://short.mdc.mo.gov/4o8).

For more information on Longview Lake, visit MDC online at [short.mdc.mo.gov/4bK](http://short.mdc.mo.gov/4bK).

### MANAGED WATERFOWL RESERVATIONS OPEN SEPT. 1

Reservations are required to hunt on MDC's 15 intensively managed wetland conservation areas. The preseason reservation period for managed waterfowl hunts this season will run Sept. 1-18, and hunters may apply for preseason reservations at up to three managed waterfowl hunting areas. The in-season weekly drawings will take place on Monday afternoons with a seven-day application period that opens the Tuesday before and closes the Monday of the draw at 3 p.m.

Preseason and in-season waterfowl hunting reservations will award 50 percent of daily hunting positions. Of the 50 percent of spots, half will be for preseason applications and half will be allocated during a weekly in-season application period.

The remaining 50 percent of spots will be held for hunters who do not have a reservation but who participate in the daily morning drawing. These spots are allocated through what is called the "poor line." For example, if an area has 20 hunting spots, 10 will be allocated through the poor line, five through preseason reservations, and five through in-season reservations.

Missouri residents and qualifying nonresidents, such as students from out of state or members of the military stationed in Missouri, can apply online for a reservation to guarantee them an opportunity to hunt on a specific day on a specific area. Residents and nonresidents can also arrive at a managed waterfowl hunting area the morning they wish to hunt and wait in line for the possibility of getting a hunting spot.

Applicants for waterfowl reservations must have their required permits to apply and their Federal Duck Stamp to hunt.

Successful preseason and in-season reservation applicants will be notified after their respective draws via email or text message with their hunt date, location, and pill assignment. "Pills" designate the order hunting parties select their hunting locations on the area. The lower the number, the sooner hunting parties get to select their hunting location.

Hunters with disabilities can apply to use ADA hunting blinds through the online reservation system during the same timeframe as the preseason application period. ADA blinds that are not selected and allocated during the preseason drawing will be placed in the weekly in-season draws.

For more information, visit [short.mdc.mo.gov/Z4W](https://short.mdc.mo.gov/Z4W), or get a copy of the *Migratory Bird and Waterfowl Hunting Digest 2024-2025*, available online and where permits are sold.

## Ask MDC

### Got a Question for Ask MDC?

Send it to [AskMDC@mdc.mo.gov](mailto:AskMDC@mdc.mo.gov)  
or call 573-522-4115, ext. 3848.

**Q: I found this mold-looking thing growing on a wire spool. When I touched it, black dust came out. Is it mold?**

➔ This is chocolate tube slime mold (*Stemonitis splendens*).

Resembling extruded chocolate, this mold is found on rotting material where it finds food and nutrients on the forest floor. Specimens tend to grow in small, compact clusters on sheltered, decaying wood. Humid summer conditions encourage its growth. When triggered by the right — sometimes stressful — conditions, this mold forms the reproductive fruiting bodies seen in this photo. Extending up and out, these brown tubes will release spores into the air.



Chocolate tube slime mold

**Q: Why are there so many spotted fawns this late in the season? Will they survive if their mothers are harvested during hunting season?**

➔ Deer breeding season in Missouri is very consistent from year to year, according to Wildlife Programs Supervisor Kevyn Wiskirchen, peaking each year in mid-November. Consequently, fawning dates are also consistent with a peak in late May and early June, though fawns are occasionally born earlier or later.

Fawns are typically weaned by 10 weeks (70 days) but can survive on their own by 45-60 days old, he explained.

"Most fawns are born by the second week of June, making them about 14 weeks old by the start of archery deer season," he said. "That means fawns born a full month late would still be fully weaned by the start of deer season. Fawns born even later would likely still have a good chance of survival without their mother."

**Q: Can you help me identify this hawk?**

➔ This is a broad-winged hawk (*Buteo platypterus*). These hawks are stocky, with large heads and short tails. They often are seen migrating in large flocks.

Based on the orange leg feathers, the relatively few white feathers around the head and over the eye, and the full





Broad-winged hawk

development of the white-and-black bands on the tail — a good field mark for this species — this bird is an adult. It also is a light morph; dark morphs have blackish plumage and are rare in Missouri.

Look for them the last week of April and the third week of September, when large flocks, or “kettles,” pass through the

state. In the evenings, they settle as a group in forested areas to spend the night. The following morning, they lift off and begin to climb on warm, rising air currents called thermals. Up to 1,000 individuals have been observed in these kettles — a spectacular sight! For more information, visit [short.mdc.mo.gov/4bS](http://short.mdc.mo.gov/4bS).

## What IS it?

Can you guess this month's natural wonder?

The answer is on Page 9.



## Captain Gary Miller

NORTHWEST REGION

*offers this month's*

# AGENT ADVICE

Exploring conservation areas on horseback is a great way to get closer to nature. More than 40 different Missouri conservation areas offer trails for horseback riding. The trails differ in length and what they offer. Visitors will find everything from trails on grasslands to trails through large tracts of forests and woodlands. Be sure to always stay on designated trails. Trails and service roads may be closed at various times during the year, especially during the firearms portions of deer season and shooting hours of spring turkey season. Check *Places to Go* online at [short.mdc.mo.gov/Z9o](http://short.mdc.mo.gov/Z9o) for regulations for the area you plan to visit. Many areas also allow camping with your animals.





# SPECIES OF CONSERVATION CONCERN

## Big Creek Crayfish

by Cheyenne Stratton

The Big Creek crayfish is exclusively found in headwater streams of the St. Francis River watershed in Missouri. In 2023, the U.S. Fish and Wildlife Service (USFWS) listed it as federally threatened.

### WHY IT'S IMPERILED

The primary threat to the Big Creek crayfish is the invasive woodland crayfish, which invaded the watershed in the 1980s. Woodland crayfish compete with and hybridize with Big Creek crayfish, displacing them from their habitat.

### MDC RESTORATION EFFORTS

MDC is working with the University of Missouri and USFWS to develop a recovery plan. Efforts include assessing woodland crayfish invasion, evaluating the effectiveness of natural barriers, and monitoring and protecting Big Creek crayfish populations.

### WHAT CAN YOU DO?

To prevent future invasion, avoid transporting crayfish or other animals to new locations. Never release unused bait or aquarium pets into any body of water. Keep Missouri streams clean to maintain important habitat for our native aquatic species.



### ATTENTION DUCK HUNTERS!

We need your help! MDC is sending out surveys to some duck hunters by mail or email, so please be on the lookout this fall. Your responses to these surveys will inform changes to future zone boundaries and season lengths, which will be in place for the next five years, starting with the 2026–2027 season. If you receive a survey, please fill it out and return it to us. Your opinions matter. If you have any questions, please call 573-815-7900, ext. 2939.



## MDC HONORS JOHN WYLIE WITH MASTER CONSERVATIONIST AWARD

The Missouri Conservation Commission and MDC has honored former MDC staff person John Wylie with the Master Conservationist Award in recognition of his nearly four-decade MDC career and dedication and contribution to forestry and farm management and the native landscaping movement.

Wylie, who died in 2000, is the award's 68th recipient. The commission presented the award to his family during its open meeting in Jefferson City on July 12.

Originally from Sweet Springs in Saline County and then Jefferson City before his death, Wylie had a near 40-year career with MDC. An avid outdoorsman since childhood, he enjoyed hunting and fishing.

He began his higher education in 1942 as a pre-forestry student at the University of Missouri prior to serving in the U.S. Merchant Marine during World War II. He was honorably discharged in 1946 and enrolled in Oregon State University where he graduated with honors with a Bachelor of Science degree in forestry.

Wylie joined MDC in 1949 as a forester in Eminence and then moved to Warrenton as a district forester. In 1957, he was promoted to MDC headquarters in Jefferson City, where he served in the Farm Forestry Division, rising to assistant state forester. Following passage of the Design for Conservation sales tax in 1976, he was appointed to be the first chief of the newly formed MDC Natural History Section.

During his tenure at MDC, Wylie contributed to advances in forestry and farm management, wildlife awareness, and preserving and protecting the natural resources of Missouri. He started the Missouri State Champion Tree Program and surveyed many of the first champion tree records.

Wylie began Eagle Days in the late 1970s along with Prairie Days. He also helped design and launch Missouri's urban nature centers with Burr Oak Woods in Kansas City being the first one, opening in 1982.

Wylie founded the Missouri Native Plant Society as well as the Walnut Council, a national forest products organization.

"Mr. Wylie helped shape the future of Missouri conservation. His contributions informed, impacted, and inspired countless people, including me," said Deputy Director Aaron Jeffries, who was a childhood neighbor of Wylie after his retirement. "Mr. Wylie lived across the street and had one of the first red buckeye trees I had ever seen. I now have several red buckeyes planted in my yard."

Wylie earned several awards throughout his career. The Missouri Native Plant Society named its highest award, which recognizes individuals who have provided exceptional service to the society, the John E. Wylie Award.

"There is no doubt John Wylie's contributions to conservation in Missouri have had broad and long-lasting impacts. Due to his dedication and passion for conservation, Missouri is a better place," said Commissioner Steve Harrison when presenting the award to Wylie's family.



The Missouri Conservation Commission and MDC recently honored John Wylie with the Master Conservationist Award, recognizing his lifetime of conservation work, including a near 40-year career with MDC. Pictured is Wylie from his career with MDC.

The Master Conservationist Award was created in 1941 to honor living or deceased citizen conservationists, former MDC commissioners, and employees of conservation-related agencies, universities, or organizations who made substantial and lasting contributions to the fisheries, forestry, or wildlife resources of the state. Learn more at [short.mdc.mo.gov/4bH](https://short.mdc.mo.gov/4bH).



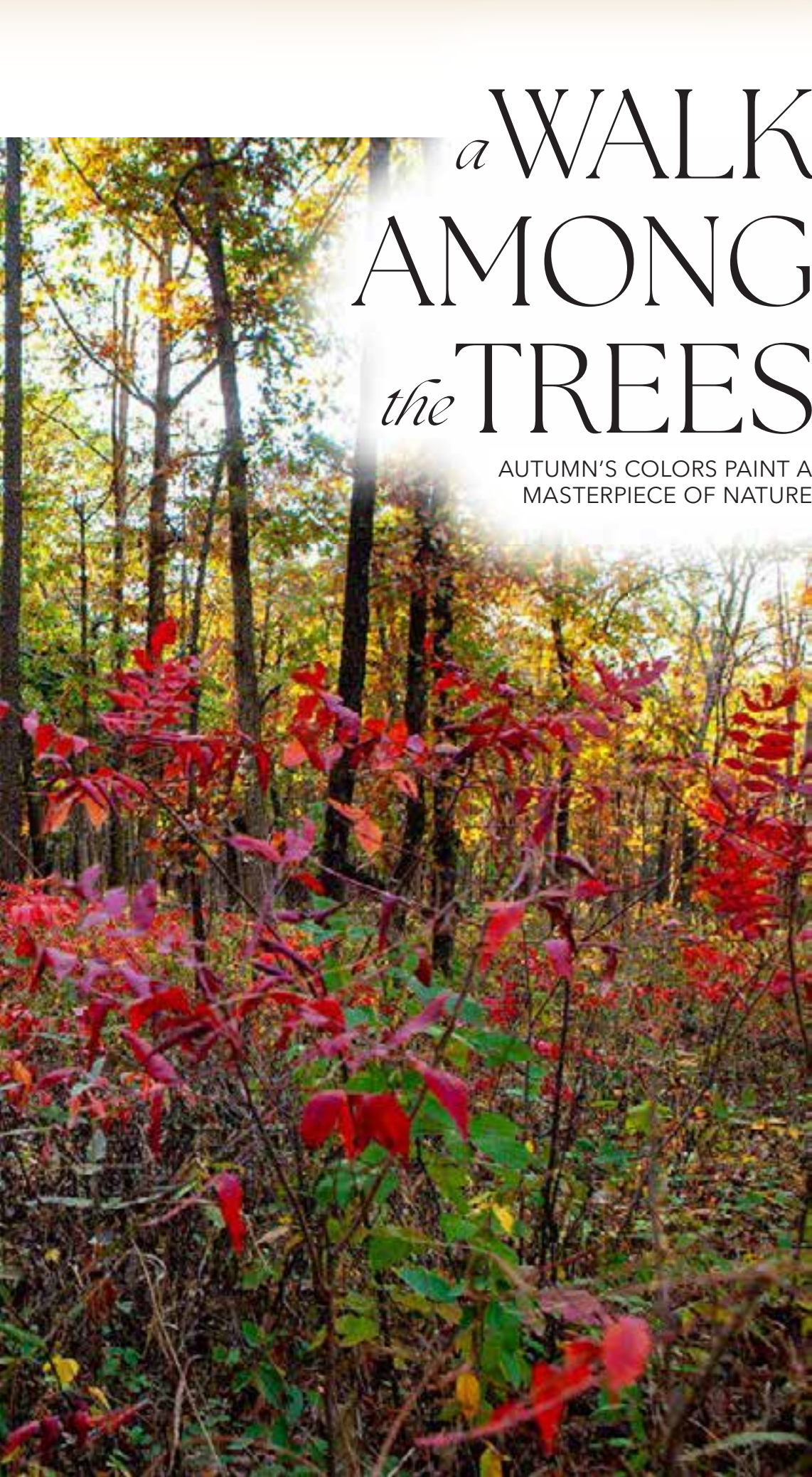
## WHAT IS IT? GRASSLAND CRAYFISH BABIES

Grassland crayfish reach up to 3 inches and may be red to reddish-brown. They are elusive, spending most of their time in burrows in open grasslands and prairies. After mating, females use their swimming appendages to carry the eggs for two to 20 weeks. Once hatched, the young stay attached through a stalklike appendage until they molt. At that time, they are no longer attached to their mother, but often return to her for safety.









# *a* WALK AMONG *the* TREES

AUTUMN'S COLORS PAINT A  
MASTERPIECE OF NATURE

There is something magical about Missouri in the fall. The green-leaved trees of summer slowly turn into eye-catching shades of red, gold, and orange. It's a process that takes several weeks to conclude and progresses in phases amongst our variety of trees, shrubs, and vines.

Even treeless areas, such as prairies and roadsides, display beautiful shades of gold, copper, purple, olive, and auburn with fall wildflowers and grasses.

It's a spectacular show!

Get out there, grab a front row seat, and discover nature this fall. Take a walk amongst the trees, leaves, and flowers. Take it all in — the sights, the sounds, and the cool, crisp air. You'll be back for an encore.

**Peck Ranch  
Conservation Area**

*late October*

**David Stonner**

24-70mm lens • f/4.5 • 1/40 sec





## **Elk at Peck Ranch**

*late October*

**David Stonner**

500mm lens  
f/4 • 1/100 sec

## **Otter Slough Bootheel Aerial**

*late October*

**David Stonner**

8.80mm (35mm equivalent:  
24mm) lens • f/3.5 • 1/60 sec







## Sumac

*mid-November*

### Noppadol Paothong

100–400mm lens

f/11 • 1/10 sec

## Mallards

*mid-November*

### Noppadol Paothong

600mm +1.4x

teleconverter lens

f/8 • 1/800 sec



### Love what you see?

For more information  
and inspiration, visit our  
*Fall Color* page online.







## Sunrise Over the Lower Ozarks

*late October*

**Noppadol Paothong**

70-200mm lens

f/16 • 0.5 sec

## Cottonwood Leaf

*late October*

**David Stonner**

100mm macro lens

f/2.8 • 1/640 sec







**Belted Kingfisher**

*mid-November*

**Noppadol Paothong**

600mm +2x teleconverter lens  
f/11 • 1/400 sec





There  
are few  
things  
finer than  
a walk  
among  
the trees  
on an  
autumn  
day.

—LAURA  
JAWORSKI

**Shoal Creek**

*late September*

**Noppadol Paothong**

11-24mm lens

f/16 • 1/60 sec



# A Verie Good FRUIT'



MISSOURI'S NATIVE PERSIMMONS OFFER TASTY TREATS

by Jan Wiese-Fales



Unless you grew up gathering American persimmons (*Diospyros virginiana*) or were introduced to them by someone who did, your persimmon association may be with the larger, more firm Asian varieties (*Diospyros kaki*), available in grocery stores, rather than the golden ping-pong ball sized fruits that grow in Missouri's wilds.

Persimmon fruits are the largest native true berries. They turn from green to bright orange as they ripen in September through November, becoming soft, slightly wrinkled, and deliciously sweet. When ripe, they often fall to the ground, although some ripe fruits remain on trees after they have dropped their leaves and can be dislodged by shaking the tree.







However, until persimmons are fully ripe, they have a beyond-bitter flavor and a mouth-drying astringency due to the rupturing of tannin cells in the unripe fruits. These chemical compounds cause extremely unpleasant puckering of mouth tissues.

Missouri State Botanist Malissa Briggler grew up in Callaway County in the central part of the state, where her family farmed.

"Persimmons were always there, but I didn't know about them," she said. That was until a friend persuaded her to bite into a green persimmon.

"It was terrible," Briggler said of both the flavor and the trick her friend played on her.

In Missouri, persimmon trees can be found growing in forested areas but prefer more light than many understory species. According to esteemed botanist Julian Steyermark, author of *Flora of Missouri*, they are found naturally growing on prairies, the borders of woods, and along streams. Mature trees have rounded crowns, range in height from 30 to 60 feet, and may take up to nine years to produce fruit when started from seed.

"They're pretty widespread in Missouri except for some northwestern counties," Briggler said. "I see them growing along fencerows, and persimmons are easy to pick up in pastures that have been recently grazed or hayed."

*Persimmon's 3- to 6-inch leaves have a tapered oval shape. They are one of the last trees to leaf out in the spring and the first to drop their leaves, which turn yellow in the fall. Mature trees' thickly furrowed and blocky grey-black bark is sometimes likened to alligator skin, making them easy to identify.*

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## The Birds and Bees of Persimmon Trees

Persimmon trees are most often dioecious, which means they are either male or female. In May and June, small, fragrant green-yellow to white, four-lipped blooms occur on short stalks in sets of three on male trees and singly on female trees. Persimmons are bee- and wind-pollinated. Occasionally, a tree will be self-fertile — monocious — with perfect flowers and no need for a partner in pollination.

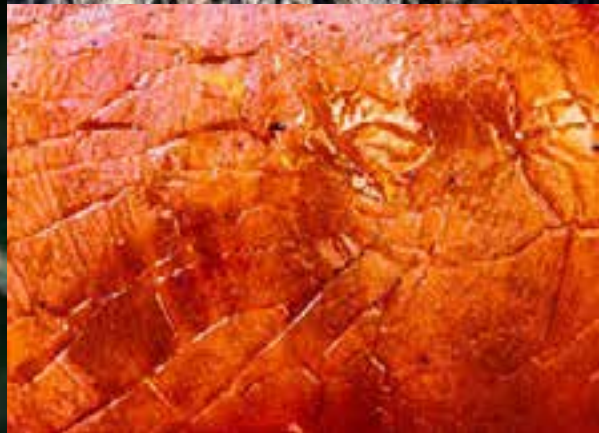
Trees reproduce both sexually through seed production and asexually by way of root runners, forming groves. Persimmons take seven to 10 years to produce fruit, with each berry containing five to eight large seeds. Because all trees in a grove are the same sex as the parent tree, an entire grove of male trees will be fruitless.

Persimmon's 3- to 6-inch leaves have a tapered oval shape. They are one of the last trees to leaf out in the spring and the first to drop their leaves, which turn yellow, in the fall. Mature trees' thickly furrowed and blocky grey-black bark is sometimes likened to alligator skin, making them easy to identify.

## Historical Perspective

Fossil records dating back to the Cretaceous period — approximately 145 to 566 million years ago — show that the somewhat exotic persimmon genus existed in countries throughout the world. Despite being widespread in North America, in its most recent adaptations, our native species' range is limited to the southeastern quadrant of the United States. Some variations exist in American persimmons harkening back to the time when they were more diverse and widespread. The black Texas persimmon (*Diospyros texana*) is one example.









*"The fruit is like a medlar; it is first green then yellow; and red when ripe; if it be not ripe, it will draw a man's mouth awrie with much torment, but when it is ripe, it is as delicious as an apricock." — John Smith*

For centuries, persimmons had a place on Native Americans' menus, in their pharmacopeias, and in their legends. In addition to enjoying them fresh, sugar-rich persimmons were dried for winter meals and used in puddings and breads, among other things. The word persimmon is derived from the Native Americans' references to them — spelled various ways in the written canon — which roughly translated means "dried fruit."

Persimmons are a good source of phosphorous, potassium, and vitamin C, and their astringent properties have been shown to increase antioxidant and anti-inflammatory responses. Native Americans used the inner bark from the trees to make treatments for mouth and throat ailments, heartburn, and toothaches. Roots were boiled and used to treat bowel maladies.

A Native American origin story tells of a man who undertook a spiritual journey at the behest of a celestial deity who advised him to refrain from eating and drinking until his quest was completed. On the man's journey, he chanced upon a grove of ripe persimmons and was unable to resist them. He ate his fill, angering the deity who turned him into an animal that leaves footprints like a human, uses its hands like a man, and who has the uncanny ability to always know when persimmons are the perfect ripeness: the raccoon.

Persimmons also are favored dining for deer, opossums, foxes, and other small mammals, which kindly spread the seeds in their scat. Turkeys, quail, and some songbirds are fond of the fruit. Additionally, persimmon trees are a host plant for several moth species including luna and royal walnut moths, whose caterpillars dine on the tree's leaves.

Native Americans introduced persimmons to European settlers who welcomed an abundant natural food source. They eventually used the entire tree in a variety of ways.

One of the earliest written records referencing the American persimmon is attributed to Thomas Hariot, an English mathematician, astronomer, and scientist who spent time in the New World's Roanoke, Virginia colony.

Hariot published "A briefe and true report of the new found land of Virginia of the commodities and of the nature and manners of the natural inhabitants" in 1590 — a treatise aimed at documenting the country's economic possibilities. He referred to persimmons as medlars, which are the fruit of a rose-like tree found throughout Europe. Hariot wrote that persimmons were "a kind of verie good fruit, so called by vs chieflie for these respectes: first in that they are not good vntill they be rotten: then in that they open at the head as our medlars, and are about the same bignes: otherwise in taste and colour they are farre different: for they are as red as cherries and very sweet: but whereas the cherie is sharpe sweet, they are lushious sweet."

Jamestown's John Smith concurred, writing in 1607, "The fruit is like a medlar; it is first green then yellow, and red when ripe; if it be not ripe, it will draw a man's





mouth awrie with much torment; but when it is ripe, it is as delicious as an apricock.”

American persimmons belong to the Ebenaceae, or ebony family, which means its light-colored wood is very fine grained and extremely hard. Settlers used it to make things like tool handles, gun stocks, fifes, flutes, and shuttles for weaving. It also has been used to make pool cues and golf clubs. The heartwood can be beautifully dark colored in mature trees.

During the Civil War, persimmon seeds were used as buttons and, in a pinch, roasted, ground, and used as a coffee substitute. Leaves were used to make tea.

## Try it. You'll like it.

Persimmon pulp can be used to make preserves, breads, cookies, puddings, custards, ice cream, and fruit leather. Historically, it was used to make wine and beer, the latter nicknamed “possum toddy.”

To process persimmons, first wash them and remove stems and any dark spots. Place them in a food mill to separate the pulp from the skins and seeds. Any pulp that isn't used immediately can be frozen.

“Persimmons are a good safe fruit to recommend for foraging,” Briggler said. “I sometimes worry about foraging, but persimmons don't have a lot of look-alikes as some other wild edibles do.

“That's something that's so nice about the *Conservationist*,” she added. “People who aren't familiar with persimmons will learn about them and maybe give them a try. They are a delicious, safe edible fruit.”

If you'd like to plant persimmon trees on your property as a wildlife planting or in your landscape, trees are available for purchase through the George O. White State Forest Nursery, located near Licking, Mo. The nursery offers seedlings at modest prices from Sept. 1 through April 15, while supplies last. ▲

## Persimmons as a Winter Weather Indicator

You can look to the National Weather Service's Climate Prediction Center for a science-based long-range forecast of what winter weather holds in store. Or you can check with a persimmon.

Folklore, thought to originate in the Ozarks, holds that the shape of the cotyledon in the center of a locally sourced persimmon seed split in two horizontally foretells the winter weather tale.

If the embryo inside the seed looks like a knife, plan for cutting cold. A spoon-shape predicts you will need to keep your shovel close at hand for the copious amounts of snow that will fall. And a fork shape at the seed's center predicts a mild winter.

*Jan Wiese-Fales is a freelance writer who gardens in Howard County and enjoys camping, hiking, floating, and photographing Missouri's wild outdoors.*





American eel can be found in clear water but also live in murky places, burying themselves while hunting prey or avoiding predators.

PHOTOGRAPH © SEAN LANDSMAN/  
ENGBRETSON UNDERWATER PHOTOGRAPHY



An American eel is shown resting on a sandy bottom. The eel's body is a mix of green and grey, with a lighter, almost white, head. It is positioned diagonally across the frame, with its head towards the bottom left. The background is a sandy, light-colored seabed with some sparse, dark seaweed or debris scattered around. The overall lighting is soft, suggesting an underwater environment.

# Mysterious Marathoners

FROM LONG-DISTANCE MIGRATIONS TO  
BAFFLING BREEDING, MUCH REMAINS TO BE  
LEARNED ABOUT THE AMERICAN EEL

by Kristie Hilgedick



**T**HE AMERICAN EEL ARGUABLY HAS ONE OF THE most fascinating and complex migratory life cycles of any animal in Missouri.

Life for an eel begins as an egg spawned in an area of the open ocean called the Sargasso Sea. This spawning area — 2 million square miles of warm water located within the North Atlantic Subtropical Gyre and bounded on all sides by the clockwise flow of major ocean currents — lies northeast of the Greater Antilles Archipelago.

From eggs, they grow into leptocephalus, or “slim head,” larvae. At this stage they are flat, transparent, and jellylike. As they passively drift on ocean currents, scientists think they feed on tiny particles also floating freely. After the larvae reach their maximum size — and as the ocean and gulf coast currents pull them toward the shallower but more nutrient-rich continental shelf — they transform into “glass eels.” Rounder and still transparent, glass eels gain the ability to swim. As they enter North and South America’s brackish estuaries and bays, they again transform into “elvers” and “yellow eels.”

Elvers are small, perhaps 4–10 inches in length typically. They can be found in estuaries, marine, or tidal rivers. Yellow eels are named for their yellow-green or olive-brown coloration. Some yellow eels stay in salt water; some will move to freshwater. Others will shift between the two environments. Yellow eels are sexually immature adults.

“They apparently separate themselves by male and female,” said MDC Science Unit Supervisor Dave Herzog. “Males tend to stay in the salt-brackish water. Smaller in size, they grow to sexual maturity a lot quicker. Females travel up the mainstem rivers.”

Missouri’s anglers only encounter female American eels.

“We have not verified if there are any males,” Herzog said.



American eels migrate into rivers throughout the eastern United States and Canada but make it to the Missouri waters via the Gulf of Mexico and Mississippi River.

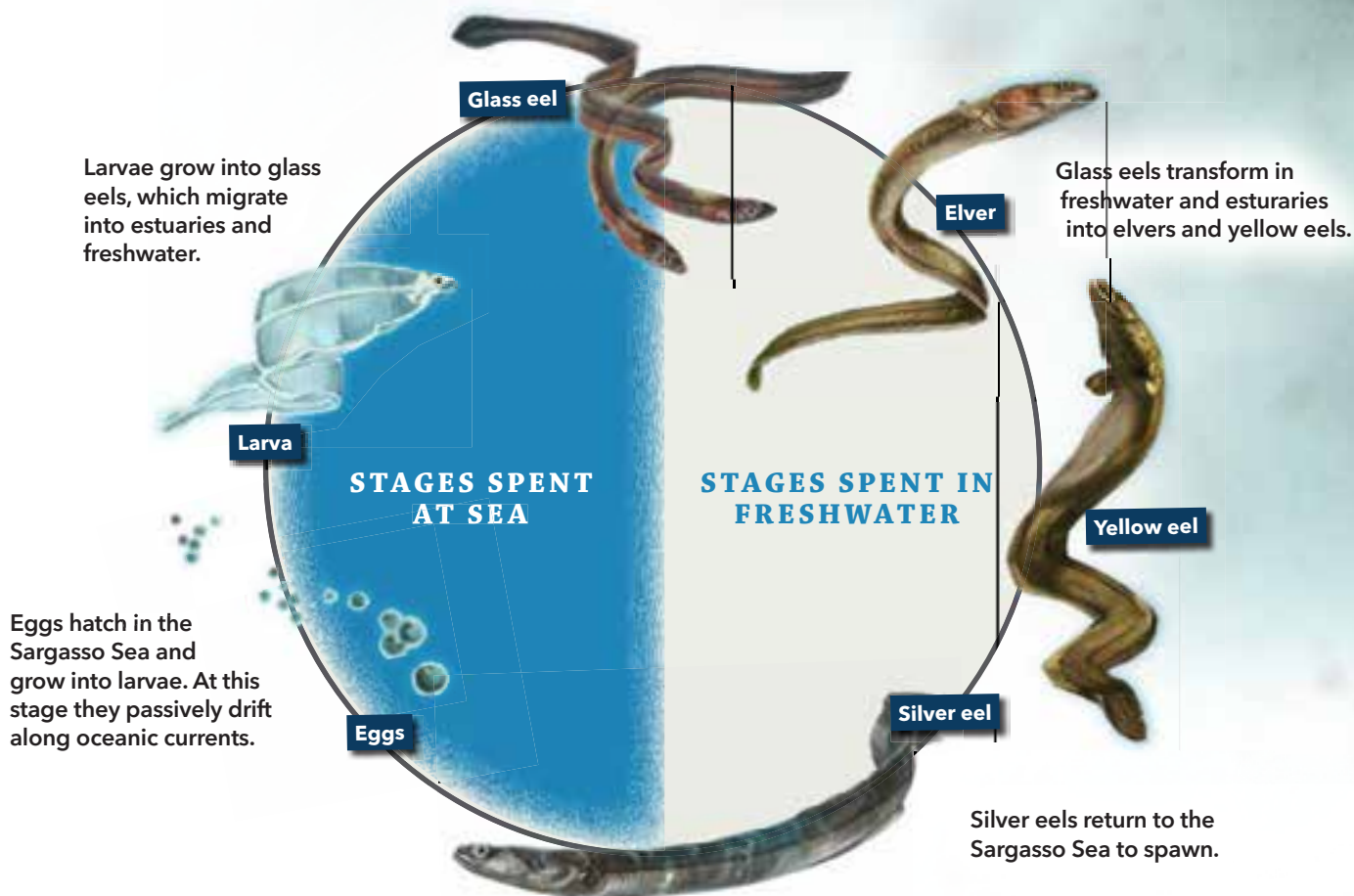
Herzog posits this natural sorting may be an efficient way for the species to allocate valuable resources, since being a female and growing eggs requires more investment than being a male. By allowing female fish access to all the freshwater food and shelter resources, this gives the species a better chance of survival.

In their native freshwater range, American eels can be found as far north as Greenland and as far south as Venezuela. They inhabit waterways throughout most of the eastern United States and even portions of the Great Plains and Southwest.

A mature female yellow eel can grow to 5 feet. It can take between five and 20 years for a freshwater yellow eel to gain sexual maturity. Eels that







remain in estuarine or marine waters mature earlier due to more food and a faster growth rate.

“The species is panmictic. This means the entire population of American eel is mixing genetically,” Herzog said.

Unlike other animal species that often adapt to small, precise locations and thus become genetically differentiated over time, American eels share a common gene pool.

In their final phase, they become silver eels. At this point, prompted by their proximity to salt water, the fish undergoes an amazing series of physiological changes that enable their ability to return to the Sargasso Sea. This allows them to transform from bottom dwellers to oceanic

travelers. Fat reserves gained after years of freshwater feeding fuels their long journey. Their eyes double in size and become more sensitive to blue to enhance their ability to see. Their stomachs dissolve. Their gill and dorsal fin structures change.

As mature silver eels, they migrate thousands of miles back to the Sargasso Sea, making them challenging to study.

American eels are “facultatively catadromous,” meaning they must spawn in the ocean but feed and grow in brackish estuaries and freshwater to complete their life history. As opposed to “anadromous” fish, which are born in freshwater, migrate to the ocean to grow and feed, and return to freshwater to spawn. Salmon, for example, are anadromous.

## MYSTERIOUS BREEDING

Science has not yet completely nailed down how eels breed; the vast size of the American eel’s native range has defied scientists’ attempts to document spawning. Scientists can attach radio trackers to the fish, but with so many obstacles on the journey, the ability to follow a tracker is limited.

“We’ve never seen them reproduce. It’s never been photographed,” Herzog explained. “It’s a big ocean. They are traveling thousands of miles.”

But, based on insights into how other fish breed, it’s likely a female eel expels 400,000 to 2 million eggs into the ocean, which are subsequently externally







fertilized by numerous males. Once they spawn, they've completed their entire life cycle, and it is assumed they die. An adult eel has never been known to return to the continent.

How they navigate to the Sargasso Sea is also still mysterious. Like us, they have five senses they use to explore their world. But like other long-distance migrators, they appear to possibly have one more: the ability to perceive magnetic fields.

"We don't entirely understand how they navigate long distances. We think it's magnetic, but we don't exactly understand how the organism interprets a magnetic field because humans don't navigate by magnetism," said MDC Scientist Andrew Glen.

Eels are not the world's longest migrators — that award goes to arctic terns. Terns travel 25,000 miles from their breeding grounds in the arctic down to Antarctica. But with lifetime journeys of 3,000-plus miles, it's fair to say eels are long-distance migrators.

Males can reproduce at five years, but they may wait for 20 years for their female cohort to return, or they may breed with older females — another point for future study.

How do males even find the drifting eggs?

"That's a great question," Herzog said. "But one not answered yet. They just do. And they must. Because they persist. We speculate a lot because we just don't know."

## THE FATE OF MISSOURI'S EELS

At this time, American eels are not considered endangered or threatened, according to an in-depth species status assessment by the U.S. Fish & Wildlife Service. They are listed on Missouri's Species of Conservation Concern Checklist. North American populations have declined, said Herzog. The construction of dams to

**American eels in the mature silver stage. Silver eels migrate thousands of miles back to the Sargasso Sea to spawn.**

control flooding and interstates to promote travel has interrupted their ability to access former habitats.

"That's when I think the decline of the American eel began," he said.

When the tallest dam on the Mississippi River — Lock and Dam No. 19 near Keokuk, Iowa — was completed in 1913, anglers caught small, upstream-bound elvers by the bushel basket load, Herzog lamented.

"Any barrier can create an impediment to the American eel, in terms of its life history and completing its migration pattern," he said.

This causes a problem for the species because the further a female eel travels away from the ocean, the larger she becomes. The largest eels are found in northern sections of the Mississippi River.

"Larger equals older equals larger equals more successful," he said.



**American eels are prey for wading herons, like this great blue heron.**





## Experiencing Eels

Most people have not experienced seeing a live American eel in nature, but those who have often are anglers.

"We have over 1 million licensed anglers in this state, and so there is a lot of potential for them to come into contact with American eels," said MDC Science Unit Supervisor Dave Herzog.

American eels (*Anguilla rostrata*) occur in a variety of stream types, but they are most abundant in ones with continuous flows and moderately clear water. Protected by logs, boulders, and other cover, they prefer to lurk in deep pools. They can live in almost any moderate to large lake or stream accessible from one of our state's big rivers, but they also survive in places separated by surmountable land barriers.

Conservationists in some east coast communities have constructed "eel ladders" to improve population numbers.

"American eels are amazing climbers," Herzog explained. "Although eels cannot walk across land like a mudskipper, or breathe air and survive out of water for extended periods of time like the northern snakehead, they can and do slither through wet grass and mud and can absorb oxygen through their skin and gills."

Solitary and territorial, they prey on smaller fish, aquatic insects, and crayfish. In turn, they are the prey for wading herons, diving eagles, and darting bigger fish.

Quite muscular and slippery, eels are encased in a thick layer of mucus — an excellent barrier to viruses, bacteria, and predators.

"It takes two or three strong people to grasp an adult female eel firmly with a dry towel for examination," said Andrew Glen, scientist with MDC.

But because of their snakelike shape, they are sometimes reviled by humans who don't understand this harmless, ancient fish. Some eel species do generate electric shocks, but not American eels.

"It's safe to handle them," said Glen.

A fattier fish can carry more eggs. Females that fail to access the furthest sections of their former range may be less successful.

Despite these impediments, American eels are still considered a commercially viable fishery. Although eels aren't considered a delicacy in the U.S., many sushi-loving Americans may be inadvertently eating them — better known as "unagi" — in restaurants when they order "caterpillar rolls." Europeans consider smoked eels fine table fare. In addition to smoked, eels are known to be quite tasty fried or pickled. In the U.S., glass eels are caught and transported to aquaculture fisheries overseas in Japan to finish growing, Glen said.

The species' future is almost as murky as the brackish water where they live. Scientists know eels are transferring nutrients — energy — from

the Sargasso Sea to the lower Mississippi. If the transfer slows, that energy is lost. Sometimes a species' connection to other lifeforms isn't immediately known; the organism's relevancy is only realized after it has vanished.

"Hindsight is 20/20," said Herzog.

Herzog believes eels may have been a part of early Americans' diets long ago, but humans' use of the fish wasn't widely recorded. Today, they are mostly by-catch to commercial fishermen and a curiosity to recreational anglers in Missouri.

He would like to see eels abundant on the landscape once again.

"We don't want to lose or remove another connection people have to enjoying angling and the outdoors," he said.

## CONSERVING EELS

To that end, MDC conducted a management evaluation of the species to better understand how the species' life history relates to their commercial harvest.

"What is the impact of harvesting mostly adult females?" Herzog asked. "We know if we sacrifice them before they arrive to the Sargasso Sea, we are pulling them out of reproduction and preventing millions of eggs from being spawned. How can we ensure that is sustainable?"

Answering questions like these are the work of MDC scientists. Herzog and his team study the fish's movements, which is why they know American eels linger on rocky beds outside Cape Girardeau and a few other bedrock locales up and down Missouri's mainstem rivers. By dissecting a fish's otolith — inner ear bone — scientists can count annuli to reveal the animal's age and can measure strontium and calcium levels, clues to the fish's environmental travel history.

Longer term, scientists do not know how climate change will impact eels but studying them could help scientists predict their future.

Eels can tolerate excess carbon dioxide in the bloodstream, which may be why they survive in places of low oxygenation, like swamps and the Gulf of Mexico's hypoxic zone.

"But we don't know what their thermal tolerances are," said Herzog, adding warmer temperatures may impact the insects and crayfish they eat. And droughts and frequent hurricanes may worsen females' migration path to Missouri waters.

"It's all very speculative, but the concerns are all very real," Herzog said. "There's so much to learn, really." ▲

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*Kristie Hilgedick serves as the MDC ombudsman, writing responses to Ask MDC. She also writes the Ask MDC column for the Missouri Conservationist.*



# Get Outside

in SEPTEMBER



→ Ways to connect with nature

## Service Spiders

You may notice some webs popping up around your garden and home. The spiders weaving these webs are harmless — usually orbweavers and black-and-yellow garden spiders. Don't knock these webs down in the hopes of shooing these spiders away. These spiders are helpful, known to reduce populations of insects that bug us while we're trying to enjoy the outdoors, like mosquitoes, gnats, flies, and more. So let them hang out! You'll thank them for their service.



Black-and-yellow garden spider

## Until Next Year

A number of butterfly species, including monarchs and cloudless sulphurs, start flying south in late summer and fall. Chances are if you see one now, it may be the last time until next spring.



VIRTUAL

## CREATURE FEATURE: Eastern Milksnake



Tuesday • Sept. 17 • 2-2:30 p.m.

Online only

Registration required by Sept. 17. To register, call 888-283-0364 or visit [short.mdc.mo.gov/4LP](https://short.mdc.mo.gov/4LP).

All ages

Meet one of Missouri's most beautiful snakes, the eastern milksnake. Find out how they got their name and how they help us as we uncover the mysteries of this secretive snake.

## Natural Events to See This Month

Here's what's going on in the natural world.



Elk begin bugling.



Three-toed box turtles enter overwintering retreats.



White bass school.



## Guess Who is Coming to MO

The American white pelican! These immense waterbirds congregate at wetlands in the Show-Me State from late September through mid-October as they migrate south. It's a great time to get out and catch a glimpse of these beautiful birds.

### SOUTHEAST REGION

## National Hunting and Fishing Day

Saturday • Sept. 21 • 11 a.m.-4 p.m.

Lake City Range, 28505 E Truman Road, Buckner, MO 64016

No registration required. Call 816-249-3194

or visit [short.mdc.mo.gov/4Lm](http://short.mdc.mo.gov/4Lm) for more information.

All ages

Lake City Range is happy to open our doors to the public with a free day of shooting in celebration of National Hunting and Fishing Day. Everyone is welcome. Come hone your skills on the trap or skeet fields, archery fields, or on the rifle or pistol ranges. All shooters must provide their own archery equipment, firearms, and ammunition. We'll see you on the range.

## Let's Get Nutty

If you are a fan of nuts, this is your season. Pecans, black walnuts, and hickory nuts, to name just a few, are ripe. Missouri nuts are a great addition to any recipe. If you need some culinary inspiration, visit MDC's recipes online at [short.mdc.mo.gov/4mN](http://short.mdc.mo.gov/4mN).



Chicken of the woods, a choice edible, appear.



Hickory horned devils dig into soil.

## POACHING HURTS MISSOURI WILDLIFE

and those who appreciate it as hunters, anglers, and nature watchers. Missourians can protect nature by reporting poaching to the Operation Game Thief (OGT) hotline.

If you witness or suspect a wildlife violation, report it to your local conservation agent or call the OGT 24-hour, toll-free number 800-392-1111. You may remain anonymous, and you may be considered for a reward.





# Places to Go

## ST. LOUIS REGION

### Frank, Emma Elizabeth, and Edna Reifsnider State Forest

Building a place of outdoor recreation  
by Larry Archer

✳ If one were to build — brick by brick — a place for outdoor recreation, one might start with a place like Frank, Emma Elizabeth, and Edna Reifsnider State Forest (SF), where people used to mine the clay to make bricks.

Located on nearly 1,400 acres in Warren County, Reifsnider SF consists almost entirely of forest and woodland, but signs of the area's clay-mining past can still be seen, most notably the largest of the area's three fishing ponds — a 4-acre waterbody known by staff and locals as The Big Pit. Other signs of the area's history take a keener eye to recognize, said MDC Forester Jeff Bakameyer.

"There are actually a couple of places you definitely could tell there was an old roadbed from a long time ago," Bakameyer said. "And we have seen a couple of old remnants of fire brick or the kilns there where they dried it."

While the area offers hiking, fishing, birding, and more, be aware that bird songs are not the only things you'll be hearing.

"The number one draw — year-round I would say, but definitely September, October, and early November — is the unstaffed shooting range," he said. "We get a lot of use of the shooting range from people sighting in their deer rifles."



"They definitely mined clay with teams of mules and slip scoops, and then they dried it in a brick kiln that was built in the valley on the area there. And then they even used a railway tram to move the bricks up the hollow to the little town of Truesdale, which was on the railroad there."

—MDC Forester Jeff Bakameyer

NORPADOL PAOTHONG





The Big Pit, Reifsnider State Forest's largest fishing pond, is one of several on the area that are the result of its clay mining history.










## REIFSNIDER STATE FOREST

consists of 1,389.1 acres in Warren County. From Warrenton, take Route M east 2.5 miles, and Schuetzenground Road south 3 miles.

38.7698, -91.0904

[short.mdc.mo.gov/4Ld](http://short.mdc.mo.gov/4Ld) 636-456-3368

### WHAT TO DO WHEN YOU VISIT

-  **Biking** Includes 5.8 miles of improved and service roads allowing bikes year-round.
-  **Birdwatching** The eBird list of birds recorded at Reifsnider SF is available at [short.mdc.mo.gov/4LZ](http://short.mdc.mo.gov/4LZ).
-  **Camping** Designated camping sites. Camping allowed only during the November and alternative methods portions of the firearms deer season.
-  **Fishing** Three fishing ponds: 4-acre, 1-acre, and 0.4-acre. Black bass, catfish, and sunfish.
-  **Hiking** The 1.3-mile Lizard Rock Trail is a natural-surface, moderately difficult trail requiring some climbing and a couple easy stream crossings. Also 3.5 miles of service roads.
-  **Hunting Deer and turkey** Regulations are subject to annual changes. Refer to MDC's regulation page online at [short.mdc.mo.gov/Zjw](http://short.mdc.mo.gov/Zjw).  
Also **squirrel**
-  **Shooting Range** Unstaffed shooting range with 25-, 50-, and 75-yard shooting lanes.

### WHAT TO LOOK FOR WHEN YOU VISIT



Bobcat



Wood frog



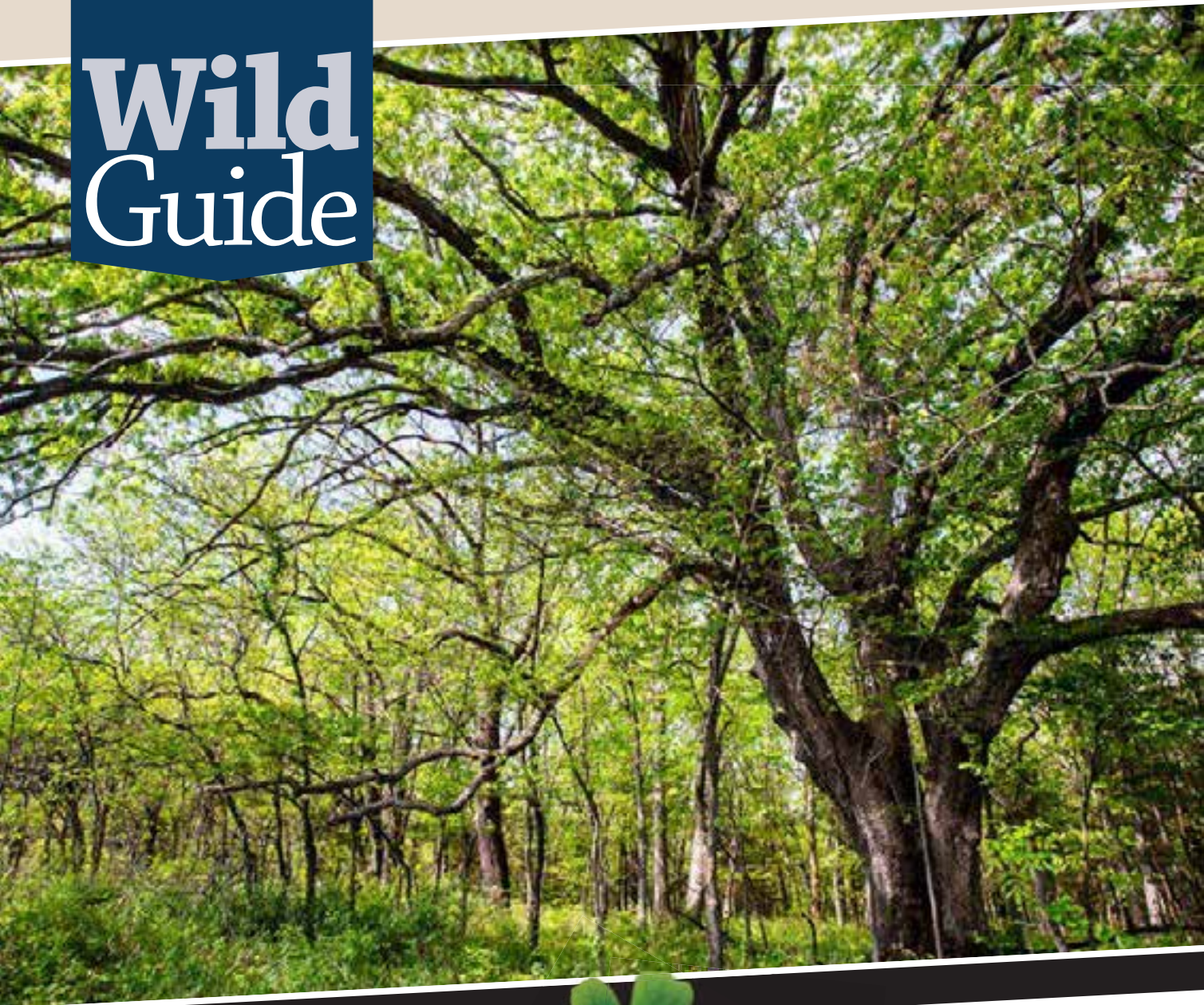
Broad-winged hawk



Cedar waxwing



# Wild Guide



## White Oak

*Quercus alba*

**Status**  
Common

**Size**  
Height: to 120 feet

**Distribution**  
Statewide



**W**ith its long, straight trunk and broad, rounded crown, oak trees are one of the most attractive shade trees in Missouri. It is also one of the longest lived at over 300 years in some cases. Oaks occur on dry upland slopes and ridges, valleys and ravine bottoms, forests, woodlands, and savanna natural communities throughout the state. In the fall, the lobed leaves of oak trees turn beautiful shades of red. Starting in September, acorns begin to ripen.



### ECOSYSTEM CONNECTIONS

The acorns from oak trees are an important food for blue jays, woodpeckers, wood ducks, wild turkeys, ruffed grouse, northern bobwhites, mice, squirrels, raccoons, and deer. Large, strong trees, like oaks, provide nesting space for many birds and mammals, and a sturdy structure for vines and other smaller plants to climb on.



### HUMAN CONNECTIONS

Oak is second only to walnut in value. Once used extensively in ship construction, now it is used for interior finishing, veneer, cabinets, general construction, whiskey and wine barrels, and more.

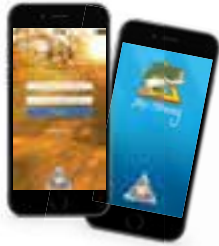


# Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖

## Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to view permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you view permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at [short.mdc.mo.gov/Zi2](https://short.mdc.mo.gov/Zi2).



## FISHING

### Black Bass

Impounded waters and non-Ozark streams:  
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Keep:  
May 25, 2024–Feb. 28, 2025

### Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2024

### Nongame Fish Giggling

Impounded waters, sunrise to sunset:  
Feb. 16–Sept. 14, 2024

Streams and impounded waters,  
sunrise to midnight:  
Sept. 15, 2024–Feb. 15, 2025

### Paddlefish

On the Mississippi River:  
Sept. 15–Dec. 15, 2024

### Trout Parks

State trout parks are open seven days a week  
March 1 through Oct. 31.

Catch-and-Keep:  
March 1–Oct. 31, 2024

Catch-and-Release:  
Nov. 8, 2024–Feb. 10, 2025

## HUNTING

### Black Bear\*

Oct. 21–30, 2024

### Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2024

### Coyote

Restrictions apply during April, spring turkey  
season, and firearms deer season.

Open all year

### Crows

Nov. 1, 2024–March 3, 2025

### Deer

Archery:

Sept. 15–Nov. 15, 2024

Nov. 27, 2024–Jan. 15, 2025

Firearms:

- ▶ Early Antlerless Portion  
(open areas only): Oct. 11–13, 2024
- ▶ Early Youth Portion (ages 6–15):  
Nov. 2–3, 2024
- ▶ November Portion:  
Nov. 16–26, 2024
- ▶ CWD Portion (open areas only):  
Nov. 27–Dec. 1, 2024
- ▶ Late Youth Portion (ages 6–15):  
Nov. 29–Dec. 1, 2024
- ▶ Late Antlerless Portion (open areas only):  
Dec. 7–15, 2024
- ▶ Alternative Methods Portion:  
Dec. 28, 2024–Jan. 7, 2025

### Doves

Sept. 1–Nov. 29, 2024

### Elk\*

Archery:

Oct. 19–27, 2024

Firearms:

Dec. 14–22, 2024

### Groundhog (Woodchuck)

May 6–Dec. 15, 2024

### Opossum, Raccoon, Striped Skunk

Aug. 1–Oct. 15, 2024

Nov. 15, 2024–Feb. 28, 2025

### Pheasant

Youth (ages 6–15):

Oct. 26–27, 2024

Regular:

Nov. 1, 2024–Jan. 15, 2025



### Quail

Youth (ages 6–15):

Oct. 26–27, 2024

Regular:

Nov. 1, 2024–Jan. 15, 2025

### Rabbits

Oct. 1, 2024–Feb. 15, 2025

### Sora, Virginia Rail

Sept. 1–Nov. 9, 2024

### Squirrels

May 25, 2024–Feb. 15, 2025

### Teal

Sept. 7–22, 2024

### Turkey

Fall Archery Portion:

Sept. 15–Nov. 15, 2024

Nov. 27, 2024–Jan. 15, 2025

Fall Firearms Portion:

Oct. 1–31, 2024

### Waterfowl

See the Migratory Bird and Waterfowl  
Hunting Digest or visit [short.mdc.mo.gov/ZZx](https://short.mdc.mo.gov/ZZx)  
for more information.

### Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2024

### Woodcock

Oct. 18–Dec. 1, 2024

## TRAPPING

### Opossum, Raccoon, Striped Skunk

Only foot-enclosing traps and  
cage-type traps may be used.

Aug. 1–Oct. 15, 2024

Nov. 15, 2024–Feb. 28, 2025

*\*Only hunters selected through a random drawing  
may participate in these hunting seasons.*

For complete information about seasons, limits,  
methods, and restrictions, consult the *Wildlife  
Code of Missouri* at [short.mdc.mo.gov/Zib](https://short.mdc.mo.gov/Zib).  
Current hunting, trapping, and fishing regulation  
booklets are available from local permit vendors  
or online at [short.mdc.mo.gov/ZZf](https://short.mdc.mo.gov/ZZf).





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There's still time to stop and smell the wildflowers. This pipevine swallowtail is visiting butterfly milkweed at Pea Ridge Conservation Area. Get out there and discover nature. What wildflowers will you discover?

📷 by **David Stonner**

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